

Remarks:

Claims 1-43 are currently pending in the application. Applicants acknowledge with thanks the Examiner's determination of allowable subject matter in claims 15-17 and 27-38. Claims 1-8, 14, 16, 19, 22, 24-29, 33, 35, 36, 39, 40, 42, and 43 have been amended to correct typographical errors and informalities and to more distinctly claim the invention, and new claims 82-85 have been added. It is respectfully submitted that no new matter is added to the application by these amendments. Reconsideration and reexamination is respectfully requested.

Claims 1, 5-14, 18-26, 39, and 43 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 3,705,932 to Hurst et al. The rejection is respectfully traversed.

Hurst discloses a machine for manufacturing hollow plastic articles, such as table tennis balls. The machine comprises eight stations, including a forming station (300), a cutting and doubling station (400), a welding station (500), a cropping and trimming station (700), and a discharge station (800). The forming station (300) forms several hemispheres in a sheet of thermoplastic material. The cutting and doubling station (400) cuts the sheet into two half-sheets, wherein each half-sheet has eight hemispheres, and inverts or rotates one of the half-sheets relative to the other half-sheet to locate the half-sheets in superposed relationship to form a double thickness sheet with the hemispheres aligned to form the table tennis balls. Next, the welding station (500) welds the hemispheres together, and the cropping and trimming station (700) removes the table tennis balls from the double-thickness sheet and removes flash from the welding of each table tennis ball. At the discharge station (800), the table tennis balls fall into a collection chute.

Claim 1 as amended calls for an automated manufacturing line to comprise a thermoforming station for thermoforming the first and second thermoformed workpieces in a plastic sheet, a trim station for trimming at least the first thermoformed workpiece from the plastic sheet, and an assembly station for assembling the trimmed first thermoformed workpiece onto the second thermoformed workpiece to form the composite article. Hurst does not reach claim 1.

In the Office Action, the Examiner has equated the Hurst cutting and doubling station (400) with the claimed trim station. The cutting and doubling station (400) cuts a sheet having multiple workpieces (i.e., hemispheres) formed therein into a pair of half-sheets having multiple workpieces. For example, if the original sheet has sixteen workpieces formed therein, then the resulting half-sheets each have eight workpieces formed therein. The cutting and doubling station (400) simply cuts a sheet in half to effectively form two sheets, and the workpieces remain integral with the sheet after the sheet is cut in half. Conversely, the claimed trim station is for trimming the first workpiece from the sheet to thereby separate the first workpiece from the sheet. The separated first workpiece can then be assembled to a second workpiece on the same sheet. As a result, the sheet remains a single sheet through the manufacturing line. Thus, the cutting and doubling station (400) is inherently not the same as the claimed trim station.

The cropping and trimming station (700) of Hurst is also inherently different than the claimed trim station. The Hurst cropping and trimming station (700) trims the workpieces from the sheet *after* the workpieces have been assembled together, while the claimed trim station is for trimming at least the first workpiece from the sheet *before* the first workpiece is assembled to the second workpiece. While Applicants believe that original claim 1 already required the first thermoformed piece to be trimmed prior to assembly to the second thermoformed piece, Applicants have added “trimmed” in the description of the assembly station to further clarify that the assembly station is for assembling the first workpiece onto the second workpiece after the first workpiece has been trimmed from the sheet, thereby inferring that the trimming occurs before the assembling.

It therefore follows that Hurst does not disclose the claimed trim station, and the anticipation rejection must fail. Claim 1 is patentable over Hurst.

Claims 5-14 and 18-24 depend directly or indirectly from claim 1 and are allowable over Hurst for at least the same reasons that claim 1 is allowable over Hurst.

Claim 6, which depends directly from claim 1, further defines over Hurst in that it specifies that the assembly station comprises a carrier moveable between a first position, where it picks the first thermoformed workpiece, and a second position, where it assembles the first

thermoformed workpiece to the second thermoformed workpiece. Hurst does not disclose such a structure; therefore, claim 6 is patentable over Hurst.

Claims 7-14 and 18-23 depend directly or indirectly from claim 6. As a result, claims 7-14 and 18-23 are allowable over Hurst for at least the same reasons that claim 6 is allowable over Hurst.

Claim 24 depends directly from claim 1 and requires that the assembly station moves the first thermoformed workpiece directly from the trim station onto the second thermoformed workpiece eliminating the need to temporarily store the first thermoformed workpiece prior to assembly to the second thermoformed workpiece. The Hurst welding station (500) assembles the workpieces (i.e., hemispheres) together by welding but does not move one of the workpieces onto the other workpiece, much less in a direct manner. Thus, Hurst does not anticipate claim 24, and claim 24 is patentable over Hurst.

Claim 25 as amended calls for an apparatus to comprise a trimmer for trimming at least one of the first workpieces from the plastic sheet and a carrier moveable between a first position, where the carrier picks up one of the trimmed first workpieces, and a second position, where the carrier assembles the trimmed first workpiece to one of the second workpieces in the plastic sheet. Hurst does not disclose the claimed trimmer or the claimed carrier.

Neither the cutting and doubling station (400) nor the cropping and trimming station (700) of Hurst reach the claimed trimmer. As discussed above with respect to claim 1, the Hurst cutting and doubling station (400) simply cuts a sheet in half to effectively form two sheets, each having multiple workpieces integrally formed with the sheet. Conversely, the claimed trimmer is for trimming the workpiece from the sheet, which remains a singular sheet. As also discussed above with respect to claim 1, the Hurst cropping and trimming station (700) trims the workpieces from the sheet *after* the workpieces have been assembled together, while the claimed trimmer is for trimming at least one of the first workpieces from the sheet *before* the first workpiece is assembled to the second workpiece. As with claim 1, Applicants have added “trimmed” in the description of the carrier to further clarify that the carrier is movable to

assemble the first workpiece to one of the second workpieces after the first workpiece has been trimmed from the sheet.

Regarding the carrier, the Hurst patent does not disclose any structure moveable between positions for picking up one of the trimmed first workpieces and assembling the trimmed first workpiece to one of the second workpieces in the plastic sheet.

It therefore follows that Hurst does not disclose the claimed trimmer or carrier, and the anticipation rejection must fail. Claim 25 is patentable over Hurst.

Claims 26, 39, and 43 depend directly from claim 25 and are allowable over Hurst for at least the same reasons that claim 1 is allowable over Hurst.

Claims 3-5 and 40-42 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Hurst et al. The rejection is respectfully traversed.

Applicants believe a typographical error was made in the Office Action and that the Examiner intended on rejecting claims 2-4 rather than claims 3-5. Thus, the rejection will be addressed below with respect to claims 2-4 and 40-42.

Claims 2-4 depend directly or indirectly from claim 1. As discussed above, Hurst does not disclose the claimed trim station and, therefore, does not anticipate claim 1. Claim 1 is also not obvious in view of Hurst. The Hurst machine is designed to form a plurality of workpieces in a sheet, cut the sheet into two half-sheets, and position one of the half-sheets adjacent to the other half-sheet for subsequent assembly of a composite article by welding. The manufacturing line of the present application is designed to trim a first workpiece from a sheet and assemble the trimmed first workpiece to a second workpiece on the same sheet. Thus, only a single sheet is involved in the formation of the composite article. It would not have been obvious to one of ordinary skill in the art to modify the double-sheet machine of Hurst to reach the single-sheet manufacturing line of claim 1; therefore, claim 1 is patentable over Hurst. Because claims 2-4 depend from claim 1, claims 2-4 are also not obvious and patentable in view of Hurst for at least the same reasons that claim 1 is not obvious and patentable in view of Hurst.

Additionally, the Examiner asserts, without support, that the limitations of assembling the first and second workpieces by press-fitting (claim 2)/snap-fitting (claim 3)/adhesive coupling

(claim 4) is well known in the art and that it would be obvious that one of ordinary skill in the art at the time the invention was made to utilize these well-known methods on the method of Hurst so as to manufacture the two-piece assembled workpieces. Applicants contend that the particular assembling methods are not obvious modifications; many factors are involved in selecting the assembling method, including design and cost of the manufacturing line and the final characteristics of the composite article. These factors must be carefully considered and weighed against one another in choosing the assembling method. In accordance with MPEP § 2144.03, Applicants respectfully traverse the assertion and request that the Examiner provide a copy of a reference that teaches or suggests that the use of the claimed assembling methods would be an obvious choice to one skilled in the art.

Claims 40-42 depend directly or indirectly from claim 25. Like claim 1, Hurst does not anticipate claim 25, and claim 25 is also not obvious in view of Hurst. The arguments presented above with respect to claim 1 also apply to claim 25 and are not repeated for brevity. Thus, claim 25 is not obvious in view of Hurst and is patentable over Hurst. Because claims 40-42 depend from claim 25, claims 40-42 are also not obvious and patentable in view of Hurst for at least the same reasons that claim 25 is not obvious and patentable in view of Hurst.

The Examiner's reasoning for rejecting claims 2-4 is also directed to claims 40-42. Accordingly, the discussion above with respect to claims 2-4 applies to claims 40-42, whereby the Applicants traverse the assertion and request that the Examiner provide a copy of a reference that teaches or suggests that the use of the claimed assembling methods would be an obvious choice to one skilled in the art.

Applicants have added new claims 82-85, which distinguish over the prior art and should be allowed.

It is respectfully submitted that all of the claims in the application are allowable over the prior art of record. Early notification of allowability is respectfully requested. If there are any questions regarding this matter, please contact the undersigned attorney.

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Respectfully submitted,

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